

Notice of Allowability

Application No.

10/647,682

Examiner

Ismael Negron

Applicant(s)

COUSHAIN ET AL.

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to U.S. Pat. Application filed August 28, 2003.
2. ☒ The allowed claim(s) is/are 1-21.
3. ☒ The drawings filed on 28 August 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. The application has been amended as follows:

In the TITLE:

- Lamp with Insertable LED Substrates **Supported by Heat Conductive Post**, and Method of Making the **such** Lamp.

Allowable Subject Matter

3. Claims 1-21 are allowed.

4. The following is an examiner's statement of reasons for allowance:

Applicant teaches an LED lamp including a heat conducting post having longitudinal recesses in an exterior surface, the recesses being for receiving a corresponding plurality of LED assemblies. Each recess also forms a wire way for the electrical conductors powering the LED assemblies. The LED assemblies are thermally coupled

to the post, and include a plurality of LED supported by a plurality of substrates. A circuit board connected to the electrical conductors, is located at the bottom of the post.

Lin (U.S. Pat. Pub. No. 2003/0016536) discloses an LED lamp having a heat conducting post supporting a plurality of LED assemblies, such assemblies including a plurality of light emitting diodes positioned on a substrate. The heat conducting post is in thermal communication with the LED assemblies and a heat sink structure. However, **Lin** fails to disclose, or even suggest, the post having a plurality of longitudinal recesses in an exterior surface of such post, the recesses being for receiving a corresponding plurality of LED assemblies.

5. **Zhang** (U.S. Pat. Pub. No. 2003/0214810) discloses an LED lamp having a frame supporting a plurality of LED, such LED being positioned on a plurality of substrates bonded to the frame. The frame includes first and second heat dissipating surfaces, such surfaces being located at the top and bottom of the frame. The frame is in also thermal communication with a heat sink member, such member including a plurality of blades for enhancing heat removal from the LED. However, **Zhang** fails to disclose, or even suggest, the frame having a plurality of longitudinal recesses in an exterior surface of such frame, the recesses being for receiving a corresponding plurality of LED substrates.

6. **Petrick** (U.S. Pat. 6,525,668) disclose an LED lamp having a plurality of LED assemblies including a heat conducting substrate. The LED assemblies are supported vertically between upper and lower support disks. The substrates, supports disks are in

thermal communication with a heat sink, for removing heat produced by the LED.

Petrick, however, fails to disclose, or even suggest, a heat conducting post having a plurality of longitudinal recesses in an exterior surface of such post, the recesses being for receiving a corresponding plurality of the LED assemblies.

7. **English et al.** (U.S. Pat. 6,682,211) discloses an LED lamp having a heat conducting post, such post being for supporting a plurality of LED assemblies. The assemblies include a plurality of light emitting diodes supported by a substrate. The heat conducting post is in thermal communication with the LED assemblies and a heat sink structure, for removing heat produced by the LED. However, **English et al.** fails to disclose, or even suggest, the post having a plurality of longitudinal recesses in an exterior surface of such post, the recesses being for receiving a corresponding plurality of LED assemblies.

8. No prior art was found teaching individually, or suggesting in combination, all of the features of the applicants' invention, specifically the claimed heat conductive post structure in combination with the LED assemblies.

9. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ismael Negron whose telephone number is (571) 272-2376. The examiner can normally be reached on Monday-Friday from 9:00 A.M. to 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra L. O'Shea, can be reached on (571) 272-2378. The facsimile machine number for the Art Group is (703) 872-9306.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications maybe obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, go to <http://pair-direct.uspto.gov>. Should you have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) toll-free at 866-217-9197.

SPR
Inr

June 21, 2005

THM
THOMAS M. SEMBER
PRIMARY EXAMINER